

# VARIABLE CABLE LENGTH COMPENSATOR FOR VIDEO IMAGING SYSTEMS

## Abstract

Described herein is a cable length compensator for inclusion in video imaging systems such as X-ray video imaging systems. When such systems are installed at sites of use, cables must generally be installed in the signal path, and the lengths of these cables -- which can affect signal resolution -- generally cannot be predicted prior to the time of installation. The cable compensator may be situated in the signal path along with the cable to compensate the signal for the effects of the cable so that the desired gain is provided across the desired range of signal frequencies. The compensator includes a low frequency compensation path and a high frequency compensation path, wherein the low frequency compensation path provides a simple gain adjustment to low frequency signals and the high frequency path provides gain adjustment dependent on both signal frequency and cable length. The high frequency gain adjustment is preferably provided by an array of high-pass filters which provide a substantially flat response across the range of input frequencies, and at least one variable resistance which may be adjusted for the desired high-frequency gain.